UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,882	10/13/2005	Seugdong Lee	39090-77	9191

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EXAMINER
KAO, JUTAI

ART UNIT	PAPER NUMBER
2473	

NOTIFICATION DATE	DELIVERY MODE
11/25/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/552,882	LEE ET AL.
	Examiner	Art Unit	
	JUTAI KAO	2473	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2009*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-17* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

09/14/2009 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 8-17 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Objections

3.   Claims 8 and 10 objected to because of the following informalities: both claims

recites "traffic volume being entered by a user through a data input unit as **a user**

value, and for comparing **a user value** for each of said plurality of ports with a value in

respective one of said packet counter registers for each port". It is unclear whether the

claimed "a user value" are referred to the same user value. Appropriate correction is

required.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

6.   Claims 8-10, 12 and 14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Rom (US 6,252,849) in view of Kesavan (US 2004/0062200).

        Rom discloses a flow control mechanism using output port buffer allocation

including the following features.

        Regarding claim 8, an apparatus (see apparatus 201 shown in Fig. 2 and

apparatus 301 in Fig. 3) for controlling traffic over a network (see network shown in Fig.

1), comprising: a switching processor, including a plurality of ports connectable to a

network line (see plurality of output ports and input ports in Fig. 2 and Fig. 3) and packet

counter registers for storing counting information on packets (see counter 1-N in Fig. 3)

ingressed and egressed (see "Counter 2 is incremented in response to an information

packet received from input port 2 being admitted into buffer 305. Counter 2 is

decremented in response to an information packet received from input port 2 and held

in buffer 305, being transmitted from output port 301" recited in column 4, lines 60-65)

and for controlling ingress and egress packet traffic volume for each of said plurality of

ports in response to an input traffic control command (see "A PAUSE frame is provided

to an information packet source by a downstream destination to inhibit transmission of

information packets such as information frames by the information packet source to the

downstream destination for a specified period of time" recited in column 5, lines 8-12).

Regarding claim 10, an apparatus (see apparatus 201 shown in Fig. 2 and

apparatus 301 in Fig. 3) for controlling traffic over a network (see network shown in Fig.

1), comprising: a switching processor, including a plurality of ports connectable to a

network line (see plurality of output ports and input ports in Fig. 2 and Fig. 3) and packet

counter registers for storing counting information on packets (see counter 1-N in Fig. 3)

ingressed and/or egressed (see "Counter 2 is incremented in response to an

information packet received from input port 2 being admitted into buffer 305. Counter 2

is decremented in response to an information packet received from input port 2 and held

in buffer 305, being transmitted from output port 301" recited in column 4, lines 60-65)

and for controlling ingress and/or egress packet traffic volume for said plurality of ports

in response to an input traffic control command (see "A PAUSE frame is provided to an

information packet source by a downstream destination to inhibit transmission of

information packets such as information frames by the information packet source to the

downstream destination for a specified period of time" recited in column 5, lines 8-12).

Regarding claims 9 and 12, wherein said input traffic control command is a

control command that enables said packets ingressed or egressed through said port to

be queued, dropped or paused (see "PAUSE" command recited in column 5, lines 8-

12).

Regarding claim 14, a method for controlling a traffic volume ingressed or

egressed via a port or a plurality of ports of a switching processor (see apparatus 201 in

Fig. 2 and apparatus 301 in Fig. 3), comprising the steps of comparing a user value with

a respective value of said traffic volume (see "When the level of occupancy of a portion

of the buffer allocated to an input port exceeds a first level or threshold, the switch

provides a control signal to the upstream sources operably coupled to the input port to

inhibit information packet transmissions to the input port" recited in column 5, lines 45-

50; where the user value is the first threshold and the respective value is the level of

occupancy of the buffer), said respective value being written in a packet counter register

(see Counters 1-N in Fig. 3), and issuing a traffic control command to said switching

processor (see "When the level of occupancy of a portion of the buffer allocated to an

input port exceeds a first level or threshold, the switch provides a control signal to the

upstream sources operably coupled to the input port to inhibit information packet

transmissions to the input port" recited in column 5, lines 45-50); regarding claim 14,

entering a user value, by a user through a data input unit, for a maximum traffic volume.

Rom does not disclose the following features: regarding claims 8 and 10, a

controller for registering traffic volume for each of said plurality of ports in an internal

register, said traffic volume being entered by a user through a data input unit as a user

value, and for comparing a user value for each of said plurality of ports with a value in a

respective one of said packet counter registers for said each port so as to output said

input traffic control command for said each port to said switching processor.

Kesavan discloses a packet storm control including the following features.

Regarding claims 8 and 10, a controller (see computing device 101 in Fig. 1

including the storm control device 110) for registering traffic volume (see "threshold

value" may also be established for each of the particular ports" recited in paragraph

[0031]) for each of said plurality of ports in an internal register (see memory 124 in Fig.

1, the threshold value must be stored somewhere in memory), said traffic volume being

entered by a user through a data input unit as a user value (see "threshold value may

be established by the user" recited in paragraph [0031]), and for comparing a user value

for each of said plurality of ports with a value in a respective one of said packet counter

registers for said each port so as to output said input traffic control command for said

each port to said switching processor (see "If...the threshold was not exceeded...allow

designated packets to pass through without being dropped...If...threshold was

exceeded...the may continue to drop all designated packets for the next time interval.."

recited in paragraph [0032]).

Regarding claim 14, entering a user value, by a user through a data input unit, for

a maximum traffic volume (see "threshold value may be established by the user or

automatically input to the storm control device" recited in paragraph [0031]; in which the threshold established and input by the user must be entered using a data input device).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Rom using features, as taught by Kesavan, in order to prevent degradation network performance due to excessive packets (see Kesavan paragraph [0032]).

7.   Claims 11, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rom Kesavan as applied to claims 10 and 14 above, and further in view of Wang (US 2004/0151184).

Rom and Kesavan disclose the claimed limitations as explained above.

Rom also discloses the following features.

Regarding claims 13, wherein said input traffic control command is a control command that enables said packets ingressed or egressed through said port to be queued, dropped or paused (see "PAUSE" command recited in column 5, lines 8-12).

Rom and Kesavan do not disclose the following features: regarding claim 11 and 15, wherein said ingress and/or egress traffic volume is controlled via a token bucket, which is shared between the ports of said plurality of ports.

Wang discloses a class-based rate control using multi-threshold leaky bucket including the following features.

Regarding claim 11 and 15, wherein said ingress and/or egress traffic volume is controlled via a token bucket, which is shared between the ports of said plurality of ports

(see "each packet received from the network access device 108 removes token from a bucket input buffer 114..." recited in paragraph [0009]; that is, a token bucket is used to control the buffer representing the total traffic volume).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Rom and Kesavan using features, as taught by Wang, in order to control the data rate at the claimed apparatus.

8.   Claims 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rom and Kesavan as applied to claims 14 above, and further in view of Rose (US 2004/0205228) and Raphaeli (US 2003/0103521).

Rom and Kesavan discloses the claimed limitations as explained above.

Rom and Kesavan do not disclose the following features, regarding claim 16, wherein a packet is dropped by setting the frame size parameter smaller than the minimum Ethernet frame size.

Rose discloses an apparatus for detecting tiny fragment attacks including the following features.

Regarding claim 16, wherein a packet is dropped by setting the frame size parameter smaller than the minimum Ethernet frame size (see "filter 100 will drop any frame it receives if...the calculated Length 1 is less than 16 bytes" recited in paragraph [0018], that is, Rose sets a frame size parameter of 16 bytes, and dropping packets contained in frames smaller than that size).

Raphaeli discloses a channel access method for powerline carrier based media access control protocol including the following features.

Regarding claim 16, wherein the minimum Ethernet frame size is 64 bytes (see "as small as 64 bytes (corresponding to the minimum Ethernet frame size)" recited in paragraph [0026], which shows that the 16 bytes parameter in Rose's invention is smaller than the minimum Ethernet frame size, as required by the claim).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Rom and Kesavan using features, as taught by Rose and Raphaeli, in order to prevent tiny data fragment attack of the system.

9.   Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rom, Kesavan and Wang as applied to claim 15 above, and further in view of Rose (US 2004/0205228) and Raphaeli (US 2003/0103521).

Rom, Kesavan and Wang discloses the claimed limitations as explained above.

Rom, Kesavan and Wang do not disclose the following features, regarding claim 17, wherein a packet is dropped by setting the frame size parameter smaller than the minimum Ethernet frame size.

Rose discloses an apparatus for detecting tiny fragment attacks including the following features.

Regarding claim 17, wherein a packet is dropped by setting the frame size parameter smaller than the minimum Ethernet frame size (see "filter 100 will drop any frame it receives if…the calculated Length 1 is less than 16 bytes" recited in paragraph

[0018], that is, Rose sets a frame size parameter of 16 bytes, and dropping packets contained in frames smaller than that size).

Raphaeli discloses a channel access method for powerline carrier based media access control protocol including the following features.

Regarding claim 17, wherein the minimum Ethernet frame size is 64 bytes (see "as small as 64 bytes (corresponding to the minimum Ethernet frame size)" recited in paragraph [0026], which shows that the 16 bytes parameter in Rose's invention is smaller than the minimum Ethernet frame size, as required by the claim).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Rom, Kesavan and Wang using features, as taught by Rose and Raphaeli, in order to prevent tiny data fragment attack of the system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUTAI KAO whose telephone number is (571)272-9719. The examiner can normally be reached on Monday ~Friday 7:30 AM ~5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571)272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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